English manual for BJ5000Ex

Edition 5 (from program 1.1407)

Warning!

BJ5000EX with the program version 1.1407 or later has a new fishing mode, called Pause mode.

PLEASE ENSURE YOU READ THE INSTRUCTIONS BELOW:

Pause mode: Is a new fishing mode for BJ5000 EX. Similar to Manual mode , this mode is used to maintain the same length of line when bottom fishing, regardless of the weight on the line due to catch. If the EX senses that the wheel is rotating backwards under load (weight of catch) the MOTOR WILL START and haul line back to the last stop position. This mode is also useful when using the boat's engine to hold the boat in position over a school of fish with the lines still in the water.

TAKE CARE TO KEEP HANDS AWAY FROM THE WHEEL WHEN USING PAUSE MODE AS THE WHEEL MAY START UNEXPECTEDLY!!

Manual mode: . Manual mode is the default setting when powering up the EX.
It is also the standby mode when the machine is not in use. The motor will only start by pressing the [U]P button. If the line is left in water, especially when moving the boat, line is pulled off the wheel.

Automatic mode: Used for fishing with one of six selectable fishing programs with the motor controlled by the EX system program, as per previous models.

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Congratulations on an excellent choice of jigging machine.

Belitronic has produced electronic jigging machines since 1972, this was a worlds first. Since then we have sold thousands of machines in 70 countries, mostly in Norway, Iceland and the Faeroe Islands.

APPROVAL

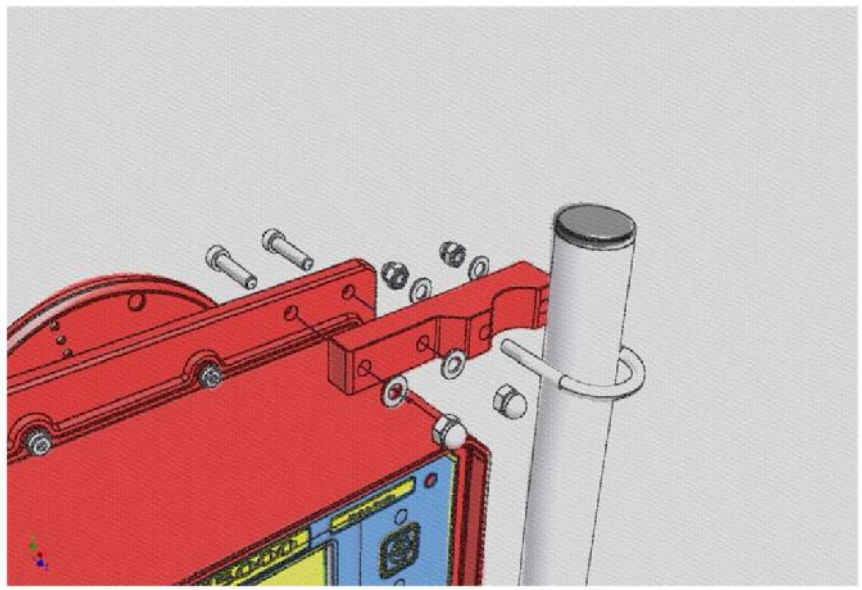
This machine BJ5000 is produced by Belitronic Sweden AB in Lunde Sweden in accordance with the appropriate rules for CE approval and marking within EU and the EEC. The serial number is printed on the outside label and also on the label under the gearbox.
The machine is only meant for fishing. It must be mounted in such a way that no danger occurs when in use. It is very important that the spool, line and hooks cannot come in contact and injure the operator of the machine.
The emergency stop button must be easily accessible. Check daily that the emergency stop is working.
The machine must be connected to either a 12 or 24v DC, the power source should be a Lead Acid Battery. (see the chapter about Installation)
The machine can only be used by those who have read and accepted the contents of this user manual.

INSTALLATION

Upon installation, take particular care with the mechanical, but most importantly the electrical connections. If you are in doubt, contact a qualified electrician. Mount your BJ5000Ex with the supplied 40mm U-Bolts and brackets. The brackets can be attached to either side of the machine. Mount the brackets first on the machine with the supplied M8 bolts, washers and rounded nuts. Do not over tighten. Secondly use the supplied U-Bolts around the tubing with washers and nuts. Now check tightness of all the nuts.

Continued on next page…

Details on mounting



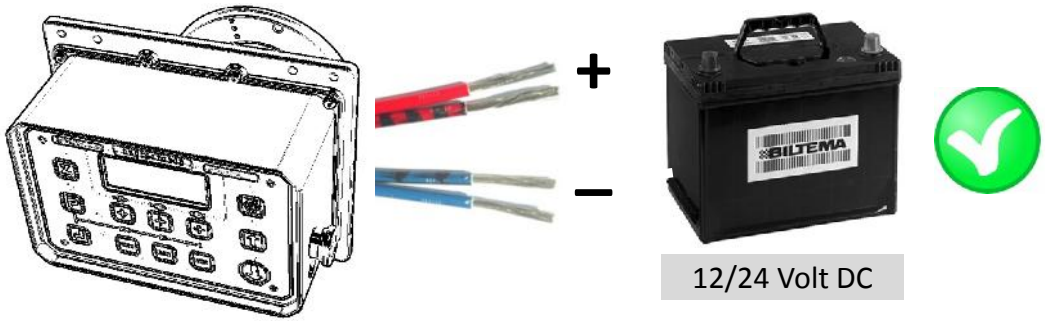
Installation

Make sure that the emergency stop button is depressed before connecting to the battery

To avoid voiding your warranty the BJ5000Ex can **only** be connected to a **lead battery!** This is very important as the machine has to release energy when working hard, which a battery can handle. A normal power supply or mains adapter **will not** handle this and result in permanent damage to your machine. The cable is connected directly to the battery or through a circuit breaker to the battery.

Avoid damaging the cable and avoid grouping the cable with other cables as this can cause interferance with other electronic devices. The standard cable length is 7m, for longer cables please ask your dealer

If you notice interferance in for example your radio, try to move the machine cable or move the machine



12/24 Volt DC

>24 Volt DC

AC/DC

DC/DC

The two red wires are connected to the battery + and the two blue to the – regardless of 12V or 24v.

GETTING STARTED

Turn on the machine by turning the EMERGENCY STOP push button lightly clockwise until it pops out. The machine is now powered. Watch the display during start up as it provides information from the first few seconds.
NB! If the display is dark; the machine is incorrectly connected to the battery. Switch polarity on the battery.

LEGG PÅ NYLON/LINA

1.Tie the line safely to the wheel. Set DRAG to minimum by pushing button **[4]** until the bar disappears.

1.Press the **[U]P** button . The motor will now run without power to the wheel. Press **[S]TOP**. Check the wheels direction. If the direction is correct then go to point 4,if not then point 3.

1.Press **[E]NTER** button. press **[4]** for **Wheel.** Press **[3]** for ***COUNTER*** *then press the* **[P]ROG** button once. The machine should now show direction in the display. Change values(”*Normal*”) or (”*Reverse*”) by using button **[3]** and **[6]**.

1.Check that the nylon is tied off

1.Press **[U]P** and the motor starts.

1.Apply more **DRAG** with short presses of button **[1]** until the desired strength for spooling is achieved. Reduce strength with **[4]. NB** do not use high strength when spooling nylon, the machine is very strong and injury could occur!

1.When the desired amount is spooled then press**[S]TOP**.

So that the machine will count correctly you have to check some other parameters. This is described on pages18-19.

SOME EXPLANATIONS

These are some good tips before reading through the manual!

This sign **[ ]** is used to tell you which button to press. **[Z]** or **[1]** refer to buttons **[Z]**ERO and button **[1].**

Bold type e.g.. **MOTOR** refers to one of 6 choices that can be made in the menu picture
You choose by using buttons **[1]**–**[6]** which enter a sub menu or values.

Between (” ”) in italic are written the names of the functions.

In the manual the speed of the motor and wheel are measured in RPM. This is not the speed of the line in the water but the amount of revolutions on the motor and wheel.

Beep: A built in speaker gives you an audible sound when you get a catch. You also get audible alerts and key noises, all of these can be removed if desired.

Catch LED: Four light diodes blink with either catch or loss of catch if using the (”*TANGLE”) function*.

Pv is used to reverse the magnetic poles produced by the clutch, thus demagnetising the metal

SOME EXPLANATIONS

Factory settings: *BJ5000Ex* is programmed from the factory so that it is ready to use straight from the box. The basic values are taken from an earlier model, the BJ5. The only thing that has to be set is the DEPTH and JIG LENGTH so that you can fish at the depth and use the jig length you require. If you ever notice that the machine is not functioning as it should then you can reset the machine to factory values. (See page 13 about **[Z] button**). All values excluding direction of wheel, language and PV values will be reset.

Zero point: When you press the [Z] button you reset the depth counter. Normally this is done when your hooks and line are just under the surface. This will then become the reference point for the machine. It will then stop here when returning to the surface, either in manual mode or with catch. As the line can lay differently every time on the wheel, it could be an alternative to use the sub value(”Stop at pulley") Read more under MENU1 – WHEEL – STOP.P – PULLEY. (Side 18 - 22)

Special features in bottom fishing programme.

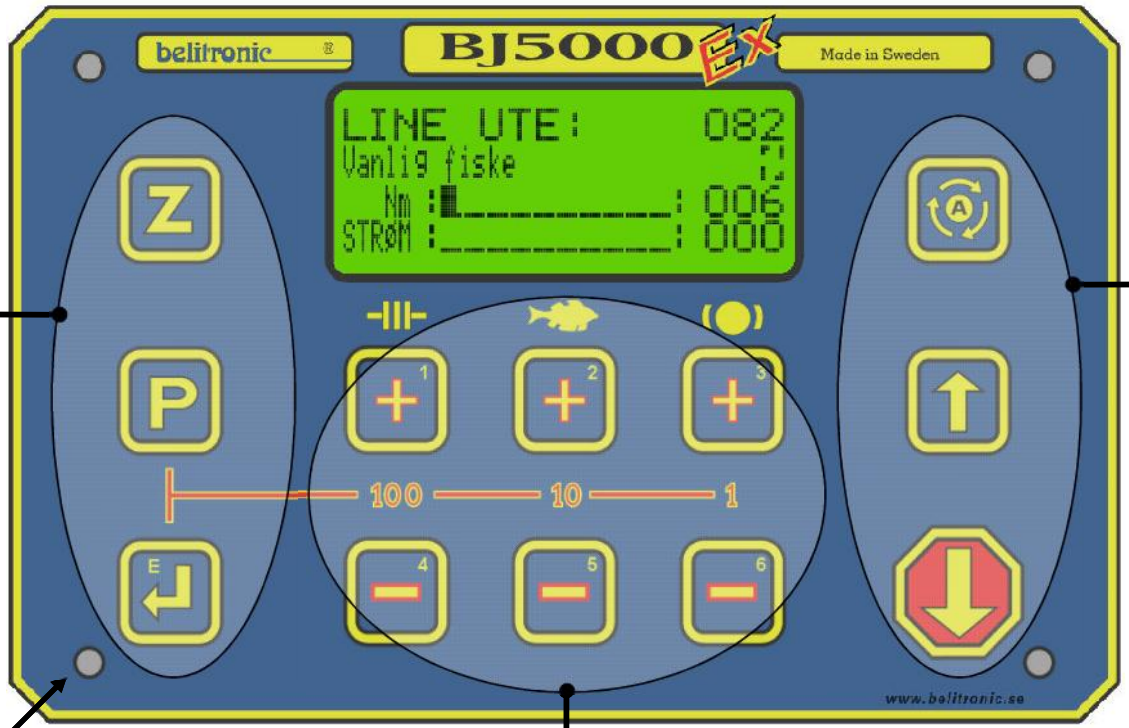
Maxdepth: A special feature used when fishing in strong currents to reduce the line drifting away from the boat. Two features can help reduce this

Maxdepth determines at which length this should happen.
Hauling up. How much percentage of the line will be re-spooled before fishing continues. The value is a percentage of the **Maxdepth.** *Example: Bottom fishing is happening between 60 and 80 meters depth.* ***Maxdepth*** *is set to 100 meters, and the* ***hauling up*** *is set to 75%, so when the line reaches 100 meters the machine will haul up 75% of the 100 meter length (75 meters) and start fishing from there again.*

Front panel

The Front panel in BJ5000Ex (called Ex from now on) Is delivered with a graphic display, 12 backlit buttons and 4 led diodes in the corners. These are used for catch indication.

All the buttons have more than one function. In the home screen when ”LINE OUT" is displayed buttons **[1]** – **[6]** change values of **DRAG, CATCH** and **BRAKE**. In all of the other screens they are used numerically **100, 10** and **1.** From here on the buttons will be symbolised in the manual with **[ ]** i.e.. **[Z]** for **[Z]ERO.**



[Z]ERO

Buttons for programming.
Resetting of counter.

[P]ROG

[E]NTER

4 Led diodes indicate catch

[A]UTO. Start automatic fishing

Buttons for automatic or manual operation

[U]P. Start and stop of motor manually and enter Pause mode.

[S]TOP/DOWN. Stops the motor and returns to home screen

DRAG+ **[1]**	***CATCH +*** **[2]**	***BRAKE +*** **[3]**
DRAG – **[4]**	***CATCH -*** **[5]**	***BRAKE -*** **[6]**

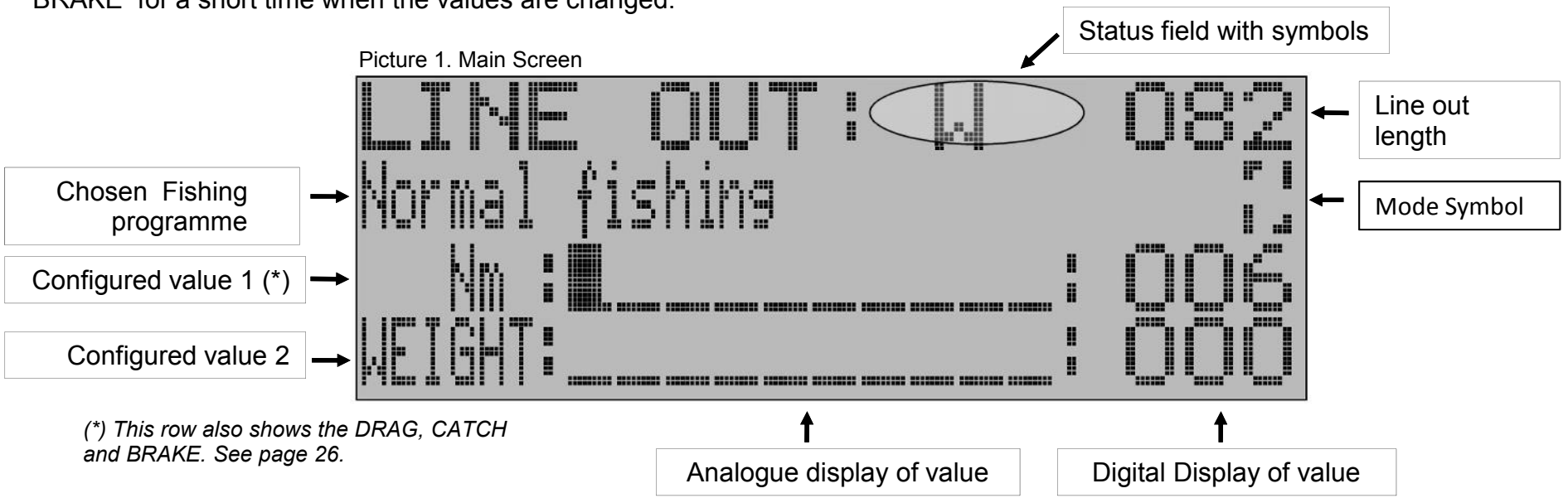
Buttons **[1]** – **[6]** have many functions depending on what is shown in the display, see pages 11 – 12.

Home Screen

The display has 4 rows with text each containing 16 characters. The home screen which is often referred to, shows ”LINE OUT” Here, many functions are displayed at the same time and some can be configured by the user. Row 1: Shows the length of line out, shown in meters, fathoms or feet. If a minus sign is before the numbers, then you have spooled past zero. You also have the status field with different symbols
Row 2: Shows chosen **FISHING PROGRAMME**. Furthest to the right you can see the automatic fishing symbol.(further explanation at bottom of page).

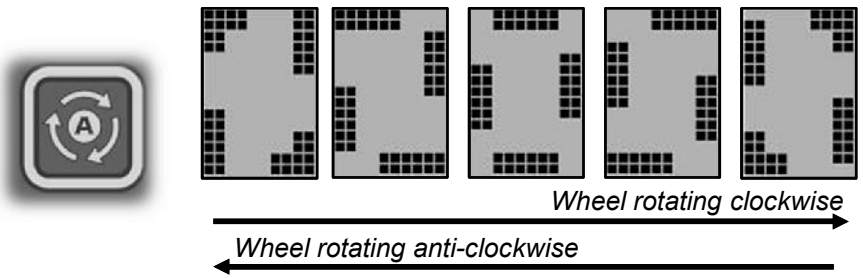
Rows 3 and 4 shows configured values (1 and 2) in both analogue and digital . Row 3 shows values for DRAG, CATCH or BRAKE for a short time when the values are changed.

Picture 1. Main Screen

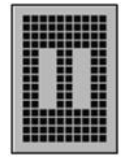


Autosymbol
When [A] is depressed, the “Mode symbols” ”Auto symbol” shows the symbol for Auto to show that the machine is now working automatically. The symbol shows the assumed direction and rotates clockwise or anti clockwise, as well as stationary during pauses. To the right, the different pictures for auto mode are displayed. When using manual mode the symbols are not shown.

Picture 2. Auto symbol (5 pictures make a rotating symbol



BUTTON [P]ROG

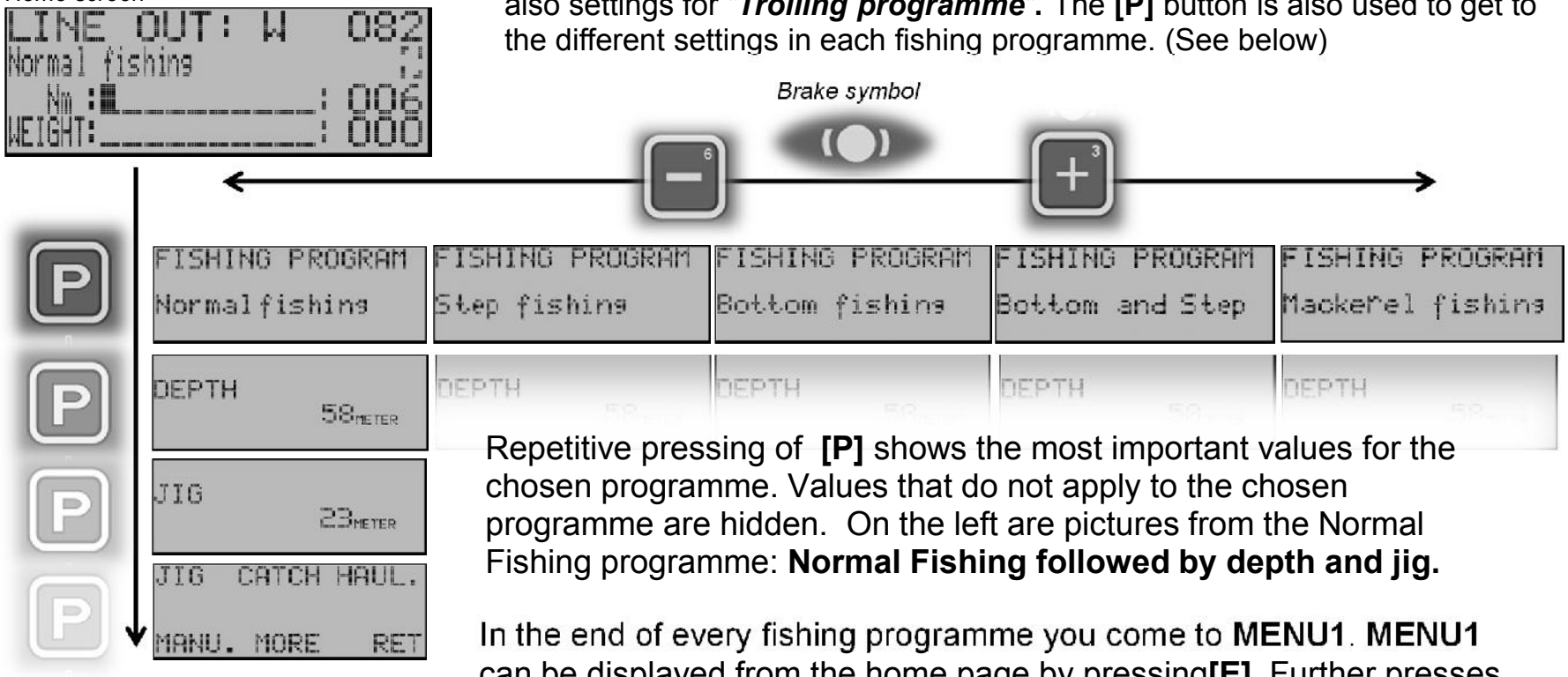


Ex with program 1.1407 or later has a new mode called ”Pause mode”. This prevents line beeing pulled out during when hooks are left in water when moving boat between fishing locations, or stopped (in Auto mode). Pause mode is made by pressing **[U]**p button in Automatic mode. Display shows the paus symbol (se picture to the right). Wheel is allowed to roll backwards two laps before motor starts. It stops at last stop location again. Motor start is notified with a beep sound. To exit pause mode eighter press **[S]**TOP, for Manual mode to prevent any motor start, or press **[A]**UTO for restart fishing program.

Press **[P]** once to choose **FISHING PROGRAMME**: ***”Normal Fishing”, ”Step Jig”, ”Bottom Fishing”, ”Bottom Fishing with Step”*** **and** ***”Mackerel Fishing”*****.** To navigate through the programmes use buttons **[3]** and **[6].**

Mackerel Fishing can also be used for Squid fishing. ***”*****Normal Fishing*****”*** has also settings for ***”Trolling programme”*****.** The **[P]** button is also used to get to the different settings in each fishing programme. (See below)

Home screen



Repetitive pressing of **[P]** shows the most important values for the chosen programme. Values that do not apply to the chosen programme are hidden. On the left are pictures from the Normal Fishing programme: **Normal Fishing followed by depth and jig.**

In the end of every fishing programme you come to **MENU1**. **MENU1** can be displayed from the home page by pressing**[E]**. Further presses of either **[P]** or **[E]** will take you back to the Home Screen.

BUTTONS [1] to [6](DRAG, CATCH and BRAKE)

The buttons under the display**[1]**-**[6]** have four different functions, we start with the symbols above them.

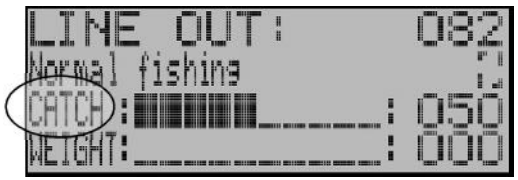
This symbol means **DRAG.** Set the power that is transferred via the clutch to the wheel when the line is being hauled or when the wheel is stationary. (Except when using **trolling programme**, then depth drag is shown that shows how much power you want to hold the wheel stationary.

This symbol means **CATCH.** Set the value that the machine will haul up catch at. The more fish on your line will crave more power from the motor. This value is compared to the power consumption of the motor that is constantly shown in the display.

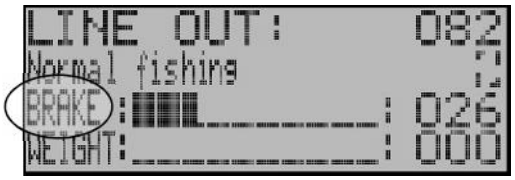
This symbol means **BRAKE** Brakes the wheel when paying out line to avoid birds nests or backlash. This is weaker than the **DRAG.**

Picture for DRAG

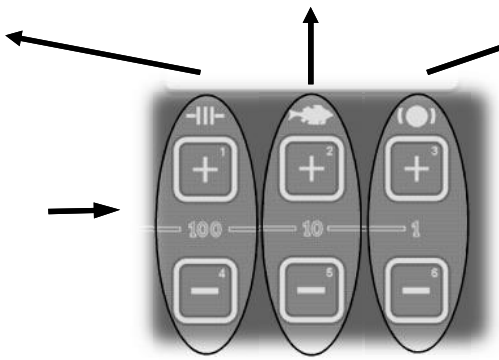
Picture for CATCH



Picture for BRAKE



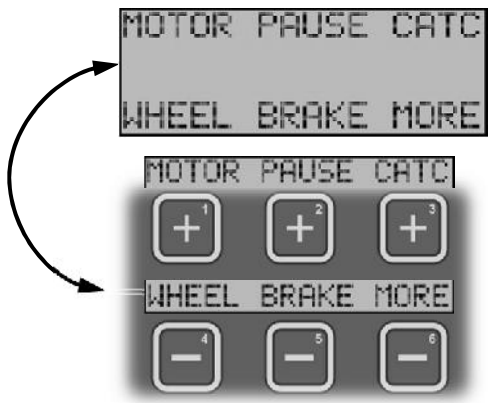
Main picture



Function1. From the home screen you can get to these important **DRAG, CATCH and BRAKE** values by pressing directly on buttons **[1]** – **[6]**. By pressing once you will see the current value on Row 3, by pressing several times on either the plus or minus you will change the value of the selected mode. After an adjustable show time will row 3 go back to the chosen value1. In this example it shows the motors torque (”Nm”)

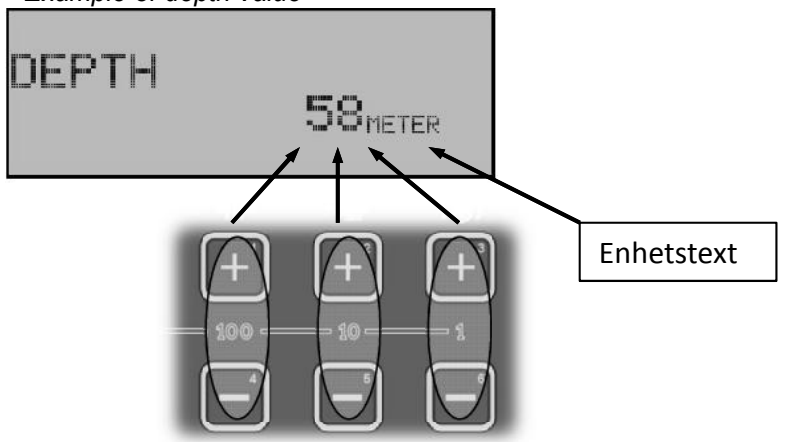
BUTTONS [1] to [6](DRAG, CATCH and BRAKE)

Example MENU1



Function2. The buttons are used for navigating in the menus. Every button refers to the text in the menu screen i.e.. Minus on the left will got to wheel menu whilst minus in the middle will go to brake menu. The choices MORE and RET which are in several menus is used to go to the next menu or return to the last menu.

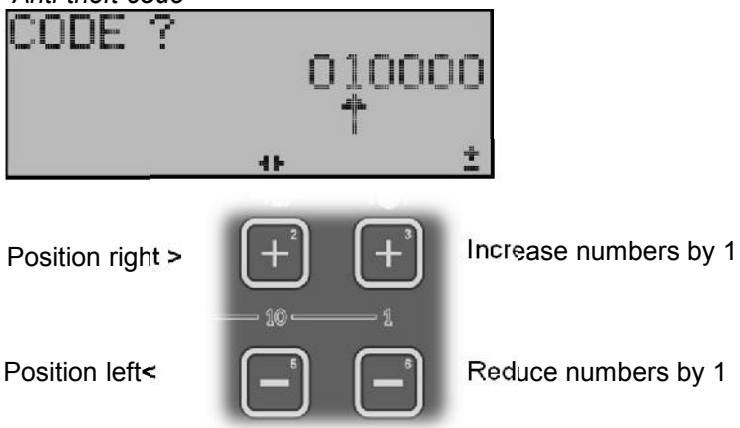
Example of depth value



Function3. Used to change settings and values. **[1]** and **[4]** adjust in 100's, **[2]** and **[5]** adjust in 10's and **[3]** and **[6]** adjust in 1's. Decimal numbers i.e.. time is changed in 10's, 1's and 0,1's. For numbers with four digits the first number (1000,s) is changed with **[1]** and **[6]**.

Function4. To change large numbers i.e.. Anti-theft code every number is changed individually. As the picture shows buttons **[3] and [6]** are used to change the selected number whilst buttons **[2] and [5]** change the position of the cursor, which is shown by an arrow. To confirm the code press **[P]**.

Anti-theft code



OTHER BUTTONS AND SYMBOLS

[Z]ERO – button (ZERO BUTTON) has two functions:
1. To reset depth counter
2. To reset the machine to factory defaults. This is useful when something unexplainable happens. Hold the button in for 5 seconds to reset machine to the factory defaults . Only affects the values that are in brackets on the display texts chapter.

On the right of the panel there are three buttons used for operating the machine.

[A]UTO – button (AUTOMATIC) means start fishing. If you hold in the button, the wheel will **release** without brake. Every time it is pressed the program will start again. If you hold in the button the line will release without brake until the button is released.

[U]P – button (UP) used to manually haul up the line to zero. Press once quickly to haul up continuously press again to stop the motor.

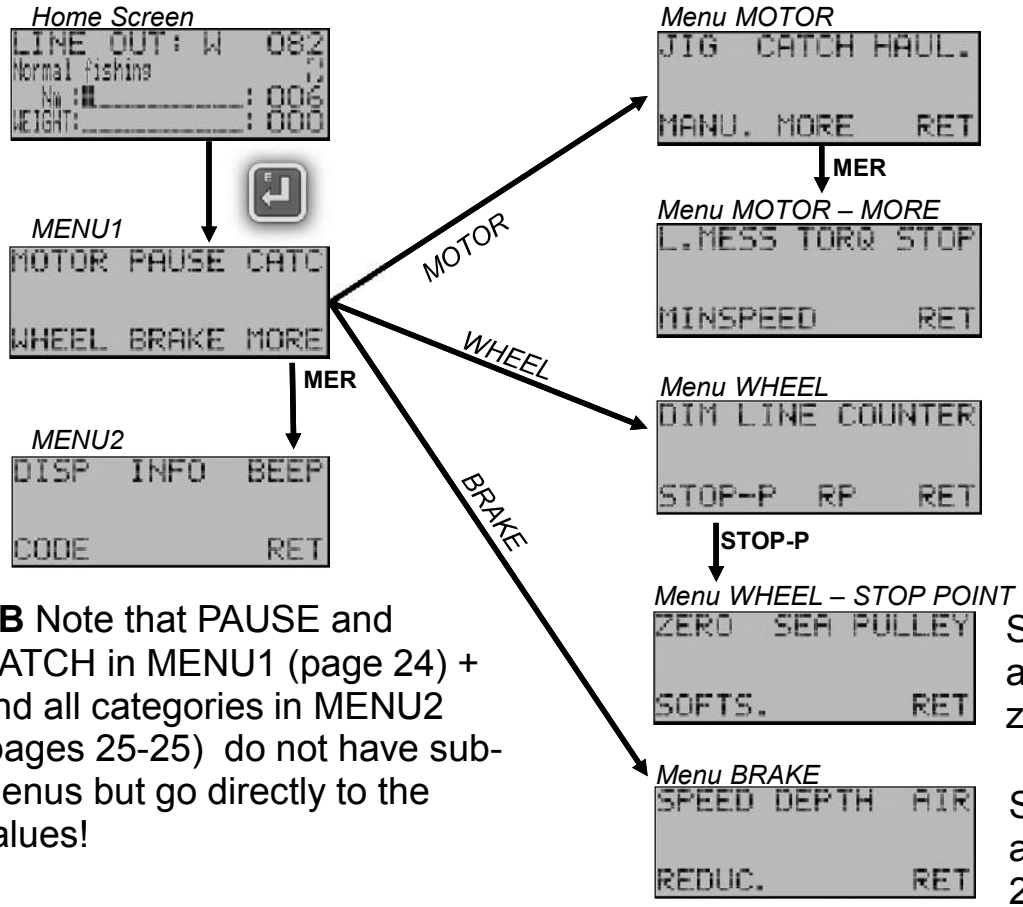
An alternative is to use the ("STOP IN PULLEY) OR ("STOP IN WATER")

[S]TOP/DOWN – button (STOP/DOWN) stops everything, cancels all programs including manual hauling. *If you hold in the button the machine will pay out line with brake until released.*

[P] – button is explained on page 10
Buttons [1] – **[6]** is explained on pages 8,10 - 12
[E] – button is explained on page 14

MENU STRUCTURE AND ENTER [E] BUTTON

[E] – Button is used to enter and exit the programming and menu mode no matter what is shown in the display. Underneath is an overview of the menus. By pressing **[E]** in the home screen you come to MENU 1. This menu then goes to sub-menus and values. If you press MORE you then come to MENU 2 and if you press RET you go back to the previous menu. Use **[1]-[6]** to navigate in the menus. Use **[P**] to browse through the values of the chosen menu and use **[E]** to save these values and return you to the home screen.



Speed and acceleration of the motor in manual or automatic mode.
Read more on page 15.

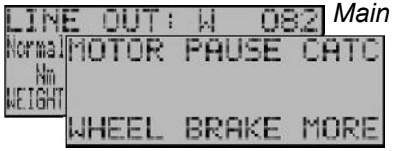
Special values for ”line mess” and changing the motor power and function.
Read more on pages 16 – 17.

Settings for the measuring of depth as well as the **PV**-board settings. As described on pages 18-20.

Settings for the running time of the wheel and what is should do when reaching zero. Read more on pages 21-22.

Setting of the 3 speed brakes that affect the wheel. As described on page 23.

NB Note that PAUSE and CATCH in MENU1 (page 24) + and all categories in MENU2 (pages 25-25) do not have sub-menus but go directly to the values!



Main screen

MENU1

Navigate by using **[E] - [1]**

MOTOR

Settings for motor speed and acceleration. Written below are the different speed modes **[1] - [4]**. **[5]** which attribute a more advanced use.

MOTOR MENU

JIG

CATCH

HAUL

MANU

Ex has totally different speeds with individual accelerations. Normal **Jig speed** and **Catch speed** with fish, and **Manual speed** when manually hauling. All speeds are given in revolutions and can be adjusted from 50- 180rpm and acceleration times can be adjusted from 0,1- 10 seconds.

JIG [1]. Here is the setting for normal fishing. The first picture (”**Soft start**”) is the acceleration from stationary to the working speed (”**Jig speed**”) is reached. The factory value for this is 1,5 second. To change this press **[P]** once. Factory setting for (”**Jig speed** ”) is 150rpm.

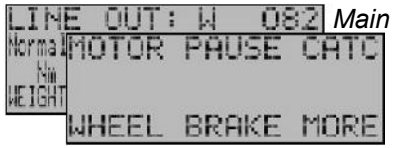
CATCH[2] An optional temporary setting (”**Catch speed**”) that activates for maximum 60 seconds (adjustable) after catch is registered. The speed(”**catch speed**”) is usually set low to get the hooks to set before the catch is hauled up. (”**catch speed**”) has a default value of 150rpm. Press **[P]** and you can adjust the time (how long the ”**Catch speed**” will last. The default value for this is OFF, or set the time to zero.

HAUL [3]. When catch is registered the speed changes from (”**Jig speed**”) to (”**Catch speed**”) if activated and then (”**Haul speed”**) and the catch is hauled up. The transition to (”**Haul speed**”) happens via the acceleration time (**“Soft** start”). The default setting is 150rpm and 0,7 seconds.

MANU [4]. When **[U]P** is pushed the machine hauls up in manual mode. Like (”**Jig speed** ”) and (”**Haul speed**”) this function consists of an acceleration time (”**Soft start”**) and then a(”**Speed**”).
Default value here is 160rpm and1,5 seconds.

MOTOR MORE MENU

TANGLE



Main screen

MENU1

MOTOR

MOTOR - MORE

Advanced settings with TANGLE, motors torque Coupled with the clutch and motors stop time. Written below choice **[1]** is explained**.**
[2] and [3] are explained on the next page.

Navigate with **[E] - [1] – [5]**

TANGLE [1]. The last speed option is TANGLE, and this is used when nylon from 2 or more machines twist together. One of the machines will register the other machines sinker as catch. When this is registered as catch the machine will then try to haul the catch. The motor on the other machine will be working with little or no resistance. The power indicator for usage will then fall below the ”(**Base value for tangle)**”. If the power indicator stays under this value for a set time (”**Time for tangle**”), the haul speed uses (”**Speed at tangle”**) to reduce the risk of a greater mess or tangle. At the same time the other machine will continue in catch mode to have the same speed up. If or when the machine catches up with the first machine so that the power usage is normal again the speed will then change to (”**Haul speed**”). Lower power usage can also occur when hooked fish swim towards the surface.

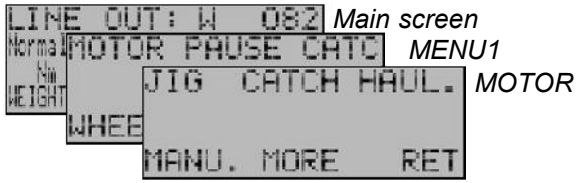
To insure that this function works it is important that (”**Speed at tangle**”) is higher, or at least the same as the other machines (”**Haul speed**”). However it is good practice that all of the machines (”**Haul speed**”) are the same This results in smoother operation, and changes between (”**TANGLE**”) and (”**Haul speed**”) is minimized. When the machine is working in **BOTTOM FISHING** the first few meters after bottom detect will always be without resistance., this is because the sinker has already hit the bottom and a few meters will roll off the wheel. This is why **TANGLE** is inactive at the bottom. The setting used for this is (”**Distance for tangle**”).

If **(” Base value for tangle”)** is used then you have to set the value for the power usage lower than what the machine uses when hauling an empty jig including sinker in normal (”**Jig speed**”). The last setting is(”**Time for tangle**”). This is how long the motor has to go with little resistance before the CATCH or TANGLE is activated.

MOTOR MORE MENU

TWIST

STOP



Main screen

MENU1

MOTOR

Navigate using **[E] - [1] – [5]**

MER

Advanced settings for motor at TANGLE, and
The motors torque in relation to the clutch and stop time.
Written below are choices **[2] and [3]**.

Motors torque *[2].* One of the improvements to the *EX* is a brushless motor, a step motor with 50% more hauling power than earlier models. It is also a lot quicker due to the fact that there is no gearbox and this results in it's efficiency is exponentially increased. The machine is constructed in such a way that the clutch does not slip, instead the electronics regulate the amount of torque sent to the motor by using the setting DRAG.

The automation in the *Ex "*constantly monitors" that there is slightly more torque in the clutch than the motor. If there is so much resistance that the motor stops, then the wheel stops. If the catch drags more than the motor can handle the well and motor will be dragged backwards, the motor will then act as a generator, and the energy produced will be returned to the battery. If the power should be more than the machine is made for the torque to the clutch will reduce and the clutch will slip until the line is eventually hauled up.

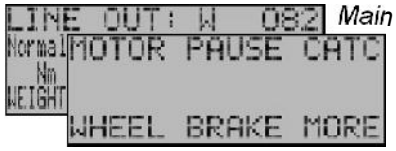
STOP [3]. The engine in the EX stops very quickly. In order to emulate older machines, the engine speed is reduced to zero for a certain time.

MINSPEED [4]. This function is explained at page 22 under section **SOFTS.**

WHEEL MENU

DIM

NYLON



Main screen

MENU1

Navigate using **[E] - [4]**

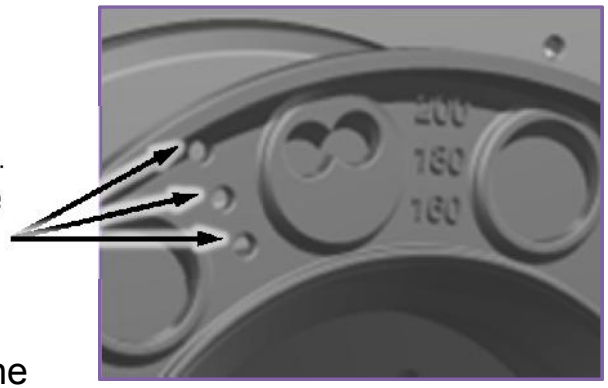
WHEEL

Miscellaneous settings for wheel and nylon. **[1] and [2]**. Choices **[3]** - **[5]** are written on the next pages.

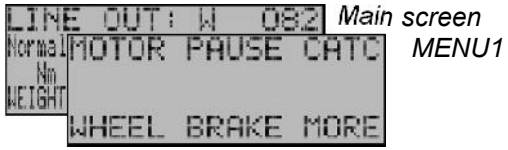
When all of the nylon is on the wheel, the dimension and mass have to be set (not the length). This is done because the machine needs this information to calculate the depth accurately.

DIM [1] to get to this menu press**[1]**. This is the width of the wheel. The machine is delivered with an 80mm wheel and the default setting for this is 80mm.

NYLON [2] There are two setting here. The first is (”**Nylondiameter**”) and is the dimension of your nylon/line. Use the dimension of your hauling line and not what is on the jig. If you are using backing line i.e. half 1,2 and 1,0 the value can be set to 1,1. an alternative is to set the thickness of the outermost nylon which is what effects the wheel the most.



Press **[P]** for (”**Wheel mass**”). This is not the length of the nylon but the thickness of the mass on the wheel. To easily find this out there are three holes on the wheel, see through these to calculate roughly how much line you have on the wheel. These 3 values are 160, 180 and 200. Use the setting that is most appropriate. A rule of thumb is that 250mtr. 1.4 nylon gives a mass of 180 on the wheel, the largest diameter is 240mm.



Main screen
MENU1

Navigate using **[E] - [4]**

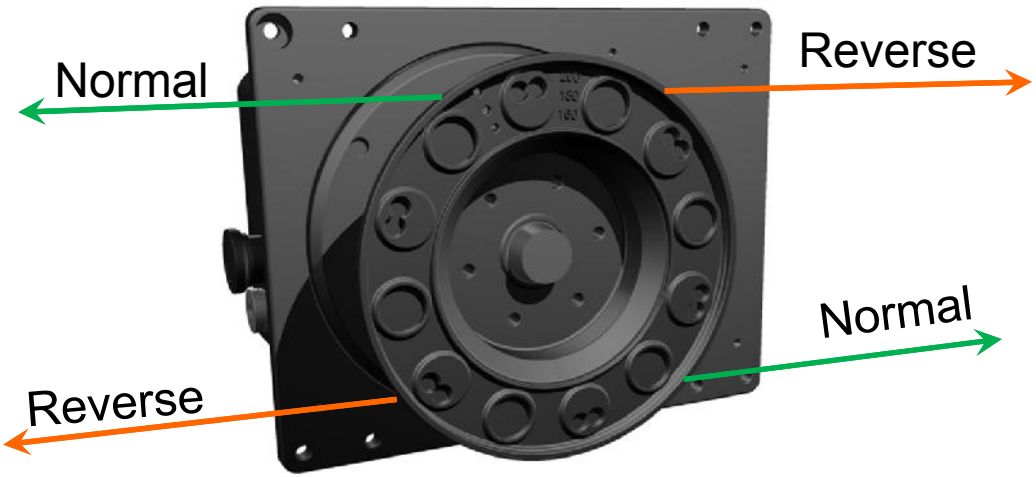
Wheel

In the **COUNTER [3]** menu there are 3 screens. ”**Measure**” is the first and this decides if the unit of measurement the machine will use, either Fathoms, Meters or Feet.

The motor in the ***Ex*** can in retrospect to the earlier machines work both ways depending on which side the nylon is released on. The direction of rotation is chosen by using the setting for (”**Direction**”) and has two choices; (”**Normal**”) and (”**Reverse**”). NB! This choice has to be made before spooling on the line. If you choose the wrong direction the line will be spooled wrongly on the wheel.

Look at the picture to see which way you want the machine

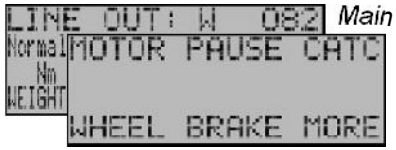
The screen **”Counter”** is a test facility to check that the wheel counter is working correctly.
The magnets in the wheel pass the wheel counter once per revolution. Reduce the **DRAG** to zero and rotate the wheel slowly by hand. You can then see that the receivers A and B change when the magnet passes. 1 indicates no signal and 0 indicates a signal. Read more about this on page 44, troubleshooting.



Please note that the picture is shown from the wheel side.

MOTOR MORE MENU

PV



Main screen
MENU1

Navigate using **[E] - [4]**

WHEEL

Settings for nylon and wheel.
Press **[5]**. If you press **[4]** you will come to the sub-menu described on the next page.

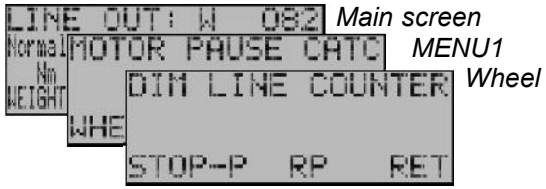
RP [5] (RP-pulses) PV is reversing of the magnetic poles of the clutch. When the machine is in operation the pv values reverse the poles in short bursts ensuring a smooth and easy release while paying out line. If the clutch slips a lot under hauling of catch the clutch can become permanently magnetic, thus using the pv values will alleviate this problem

Rp-pulses have also been used in the BJ5000 but only when a PV-card has been fitted. The latest model of the BJ5000 has this fitted as standard.

Ex is fitted with a more advanced PV-card. This card not only controls the RP-pulses but also lets the clutch work at 50% in both poles.

Earlier setting for both 12 and 24v are no longer used. There are just the following settings that can be adjusted:
(”***T1***”) is the pulse length in milliseconds
(”***T2***”) is the pause between pulses in 1/10 seconds.
(”***Pulse***”) is the amount of pulses that will be sent to the clutch.

STOP-P



Main screen
MENU1
Wheel

Navigate using **[4] - [4]**]

Settings for stop point/Zero point
Choices **[1]** and **[3]**. Choices **[2]** and **[4]** are
On the next page..

Even though the motor stops when the (”Jig length”) is hauled up in AUTO, it can also stop or be stopped in AUTO and MANUAL mode if ”**Stop at 0**”, ”**Stop in water**” **or** ”**Stop at pulley**” happens, or if you press **[S]**.

ZERO[1] (”**Stop at 0**”) This function determines whether the motor should stop or not when it reaches zero. The option to stop at 0 is “stop at pulley” (see below). The option to stop at zero, "stop pulley" (see below). This feature can be used if the nylon is exposed to too much strain (elasticity) and therefore the depth is different. The "stop pulley" and "Stop at 0" can be used individually, together or disconnected. If both are switched off the "Stop in water" is still active.

” **Minspeed** ". If "**Stop at 0**" is not used you gain access to ("**Minspeed**").
This is the motor speed after the zero-point is passed in AUTO mode. This is when the counter shows negative numbers.

PULLEY [3] ("**Stop at pulley**") Instead of "**Stop at 0**" (see above), you can get the motor to stop when a swivel goes in the pulley. When the wheel stops, the motor stops after a fairly short time. (Should only be a few seconds). If you want the wheel to be stationary for a longer period of time while fishing, the "**stop at pulley**" is active only around the zero point. The choice ("**Over depth**") determines that. "**Stop at pulley**" overrides the "**Stop in water**"

"**Restart**" is a feature that for a specified time the machine starts automatically once "**stop at pulley**" has occurred. This is the same as pressing **[A]**

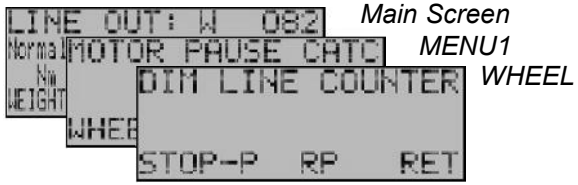
"**Auto Reset**" resets the counter to zero automatically when "**Restart**" occurs.

WHEEL STOP-P MENU

WATER

SOFT STOP

STOP-P



Main Screen
MENU1
WHEEL

Navigate using **[E] - [4] – [4]**

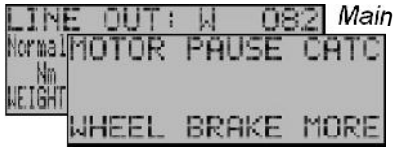
Settings for stop point/Zero point
Choices **[2]** and **[4]**.

SEA [2] ("**Stop in water**") is just like ("**stop at pulley**"). A maximum time the motor can run when the wheel stops excluding bottom catch . This time can be short, but can not be 0. The maximum time the motor can run is 99.9 seconds from the wheel stops. Factory Setting: 30.0 seconds

SOFTS. [4] is the ("**soft stop at 0** ") This is when the counter approaches zero and the motor reduces speed, This is used to prevent loss of catch This setting is the number of revolutions of the wheel used in speed reduction . Calculated from the speed the wheel has down to the ("**Minspeed** ") if ("**stop at 0** ") is tripped. See previous page.

The default value for ("**Soft stop at 0**") in **AUTO i**s 8 revolutions of the wheel. The ("**Stop at 0**") is activated and ("**Haul speed**") is set to 150Rpm. The motor speed is reduced based on this formula: 1/8x150rpm = 18.75 rpm for each revolution for the last 8 revolutions. If the wheel is pulled out again, this increases by the same values.

If ("**Stop at 0** ") had been disabled in this example the speed reduction would have gone to the ("**Minspeed**") using the formula: 1/8x (150 - Minspeed).



Main screen
MENU1

Navigate using **[E] - [5]**

BRAKE

Settings for 3 brakes that are used to avoid line mess if the speed gets too high.

SPEED [1] (Speed Brake) This function is activated if the sinker goes too quickly. It works together with the constant brake BRAKE to prevent "back-lash" of the line when it runs out. You can decide at what speed and at what power SPEED BRAKE should be enabled. When a certain speed of the wheel is reached, the brake automatically activates with selectable POWER and TIME. Factory default values are: 600rpm on the wheel 20% of the maximum brake power and a brake time of 1.0 seconds.

DEPTH [2] (Depth brake) This function activates if the sinker approaches the set DEPTH too quickly. A softer stop achieved by this function. If the set speed is exceeded, the brake engages for a certain time and with a certain force. The default value is 400rpm, 10% of the maximum braking force and braking occurs 1.0 second before the DEPTH is reached.

AIR [3] (Air Brake) This brake is similar to the speed brake. The difference is that this is active over a certain depth ("Over depth"). The brake is designed to reduce the speed from the start, for example Mackerel fishing with hooks yet to come in the water. The brake TIME and POWER is the same as SPEED BRAKE, but "SPEED" and the value ("Over depth") work over this depth. Below this depth the SPEED BRAKE is active. Factory Preset values: 600rpm and the depth 0. 0 means that the function is disengaged as factory default. The mackerel fishing is normally used with the value 10-20 ("Over depth").

REDUC. [4] (Depth reduction of Brake)
With increased released fishing line also increases the friction through the water, which then acts as a natural brake. The sinker gets harder and harder to pull out the fishing line. To maintain the correct total braking force, the constant braking force BREMS instead made to automatically reduced with increasing length of line. The reduction is determined by entering a reduction percentage, for example 20% of BREMS at a depth of, say 100m. Outside a set depth is no further reduction.

MENU

PAUSE

CATCH

Main screen

Navigate using **[E]**

MENY1

MENU1 brings you to settings that are not Specific to program choice. Described below are choices **[2] and [3]**.

PAUSE [2] ("Auto Pause") Is the time from pressing the **[A]** button until the machine releases the line. The pause is to correct the sinker and line before the release. If you use this by pressing **[A]** straight away the sinker, and the hooks are released.
When the set fishing depth is reached, the **("Depth Pause")** is activated. This is the pause before the machine starts to haul **(" Jig Length").** This is in all of the fishing programs.

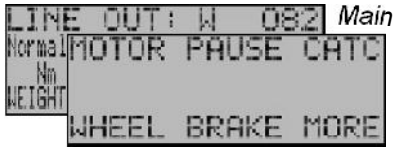
CATCH [3] ("Time up") time machine that measures the motor current before the CATCH is activated. This is to prevent short jerks in the line activating CATCH. The default value is 0.1 seconds.

("Time Down") If the line stops on the way down before it reaches the bottom or suspended DEPTH, it could be that fish are biting. This can cause it to activate CATCH. Time that determines this is the time of one revolution of the wheel. Default is (OUT). The range is from 1 to 25 seconds. NB **("Time Down")** cannot be combined with Bottom Fishing program.

("CATCH AT - Speed Brake") If this option is selected, the machine will register CATCH when the line jerks on the way down.

("Restart") Functions the same way as **("Restart")** and **("stop at pulley")** when used. (See Menu WHEEL - Then STOP.P. **("Restart")** happens when **("stop at pulley")** is not activated and can be set to a different time. Machine can not automatically reset the counter.

MENU2



Main screen
MENU1

Navigate using **[E] – [6]**

Display settings, measuring values in the machine, beep and anti-theft code. On the 3 next pages the function **[1] DISP** is explained. Functions **[2]**-**[4]** are explained on the next page.

DISP [1]
("Brightness") is the display's brightness value from 0 - 100%

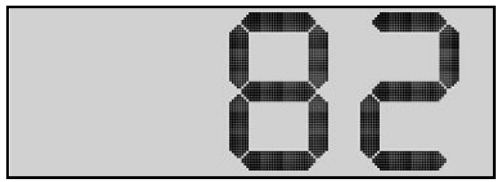
("Illumination") Is the time that the display light is on after pressing a button. This setting can be from 0.1 seconds to 60 seconds. If “ON" is chosen the display is constantly on, which is also the factory setting.

("Contrast") The black in the display. It is factory set to 80%. If the machine is mounted high (eye level and above) you need a lower value of contrast and vice versa.

("Language") Ex can display text in two languages: English and Norwegian.

("Preview") The time that CATCH, NAPP and BRAKE values are displayed after pressing one of the buttons. After this time, the display shows the main picture.

("Large Counter - Display time") New in the Ex is the "Line Out display". It appears as 3 numbers in the display, 32mm high and possibly with a minus sign in front. These will appear after you press [A]. The automatic symbol does not appear together with the numbers.

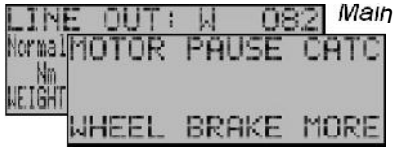


("Help Text") New in Ex is that there is room for help text to explain a feature. The text is small and runs over 8 rows. **("Help Text")** is the time before it is shown. The text shows up when the buttons are pressed, and this time has passed without pressing another button. The text goes away when you press [1] - [6]. If you do not want text, set the time to 100 seconds, it is then shown as "OUT".

MENU2

DISP

MENU2



Main screen

MENU1

Navigate using **[E] – [6]**

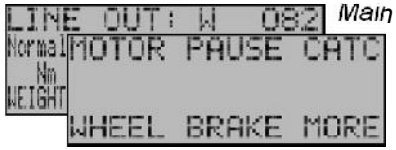
Display settings, measuring values in the machine, beep and anti-theft code. Functions **[2]**-**[4]** are explained after 2 pages.

Continued from DISP [1] ("Options for the upper row") main picture (see page 8) can display two optional parameters in row 3 and row 4. Row 3 shares information with the value for CATCH, BRAKE and DRAG when these keys are activated. Row 4 shows the value 2 at all times.

The following free options are available:

1. **Weight.** Shows the strain of the motor. 0-100% Every line indicates approx. 0,4 Amps and each full block is 3 Amps. The full bar means 20 Amps. The value is used so that the machine can register CATCH. CATCH activates when the WEIGHT value is higher than the CATCH value over a preset period **(CATCH time up),** or with slow motor speed.
2. **Nm (Newton meters)** Shows how much torque the motor will provide. The value is controlled either automatically from the factory preset value or can be increased / decreased by DRAG (set torque on the clutch). Alternatively, this can be changed completely manually.
3. **Rpm** Motor speed in revolutions per minute. (When the clutch slips you get different speeds on the engine and wheels).
4. **Batt** Displays battery voltage to the machine. Measured inside the machine where the battery cable is mounted to the electronics.
5. **Boost** Displays the motors internal working voltage. This option is used if a motor problem occurs. Normally the value should remain at 33 - 40V
6. **Temp**. The temperature inside the machine
7. **KopNm**. **(Newton meters)** Shows the ammount of torque from the clutch
8. **------.** No values are displayed on the row

MENU2



Main Screen

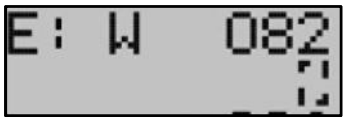
MENU1

Navigate using **[E] – [6]**

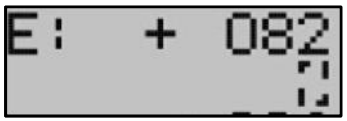
Display settings, measuring values in the machine, beep and anti-theft code. Functions **[2]**-**[4]** are explained on the next page

Continued from DISP [1]

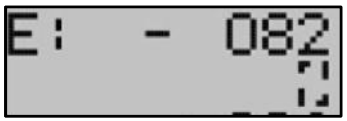
The status of the main screen can briefly see abbreviations for catch and wheel status. The following statuses will be also displayed :



”W” for write. Means values are read into memory. This symbol can not be turned off. Appears while the electronics read into memory. Do not turn off the machine when this happens.



”+” Displays that the motor current passes catch current. Time (“CATCH - Time up") begins and starts recording what happens when the time is up. If the motor current drops symbol disappears and the time (“CATCH - Time up") is reset.

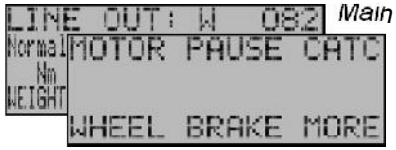


”-” Shows if the motor current should be abnormally low. This shows the countdown to the "tangle“ function if enabled. Read more about this in the tangle section.

”F” Shows when **(”speed brake”)** activates. Good to see especially if the values are in conflict with **(” depth brake*”).***

”D” Shows when **(”Depth brake”)** activates. Good to see especially if the values are in conflict with **(”Speed brake”)**

”A” Shows when **(”Air brake”)** is activated, can be used for adjusting this value.



Main Screen
MENU1

Navigate using **[E] – [6]**

MENU2

Display settings, measuring values in the machine, beep and anti-theft code. Functions **[2]**-**[3]** are explained here. This page shows choices **[2] INFO** and **[3] beep.** Choice **[4]** is on the next page.

Continued from DISP [1]

- ***("Show Catch Depth")*** This new feature means that the catch depth can be turned off and not be shown until the machine has hauled up and stopped, or can be totally deactivated. The factory setting is that it will always show catch depth when catch occurs.

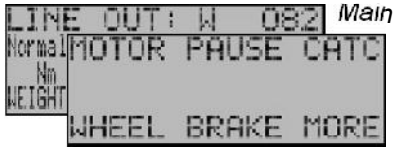
INFO [2] (Information)

- ***("Voltage")*** Shows low voltage measured inside the machine on the main board. If this falls under 10,0V you will get an error message ("LOW BATTERY!") accompanied by a constant beep. The sound disappears when the voltage rises over 10,0V. Press any button to stop the sound.
- ***("Driv volt")*** Internal battery voltage. Is only used when there is a problem with the clutch/motor. Normal *voltage is between33-42V.*
- ***("Temperature")*** Temperature measured inside the machine in (C°).
- ***("Motor current")*** Motors current use measured in Amps.
- ***("Damp value upper sensor")*** Damp inside of the machine measured from the upper edge. (Does not show a value)
- ***("Damp value lower sensor")*** Damp inside of the machine measured from the lower edge. (Does not show a value)

BEEP[3] ("BUTTON") *Turns on or off keypad sounds*

- ***("Number at catch")*** How many times the machine will beep when catch is registered. It can either be turned off by choosing "OFF", or can be set from 1 to 99 beeps.
- ***("Pause at catch or Zero")*** When the machine has hauled up after catch you get a longer beep and a longer pause, up to 60 seconds pause. You can turn this off by choosing "OFF".

MENY2



Main Screen
MENU1

Navigate using **[E] – [6]**

Display settings, measuring values in the machine, beep and anti-theft code. This page covers **[4] CODE.**

CODE [4] The machine is constructed with an electronic lock which can be activated by means of an anti theft code. If you choose to use such a code, the machine requests the code directly on start-up. The code can be set using digits from 0-999999. You have three attempts to gain access to the machine before it locks. In the event of this you must contact a dealer to receive an access code. The number to the left of the code that ends with an "h" and the serial number that appears at start-up must be reported to the dealer. Turn of the machine immediately and wait for the new code. Once the new code is entered, it deletes the customer's own code. The machine is then activated with the new code. The customer can then add their own code.

("Anti theft code at ") this determines whether the theft code should be used **("At start up")** or not **("Never").**

To select the anti theft code do the following: Press **[E]** to get to MENU1. Selection **[6]** MORE to get to menu 2 and press **[4]** CODE. To select the code to be used. Press **[P]** to set the code by pressing CATCH **[2] [5]** and BRAKE **[3] [6]** buttons. (See picture below) When you are satisfied with code, press **[P]** to confirm then **[E]** to return to the main screen. Next time the machine is turned on, it asks about the anti theft code.

button**[2]** moves to the right. →

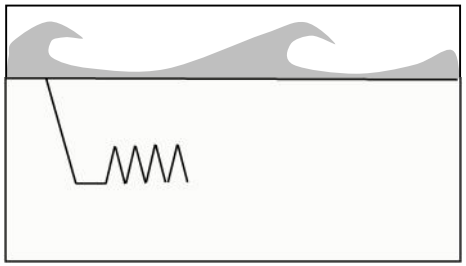
button**[5]** moves to the left. ←

button **[3]** increases the number above the arrow by 1

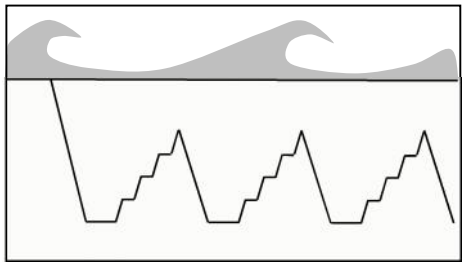
button **[6]** reduces the number above the arrow by 1

FISHING PROGRAMS

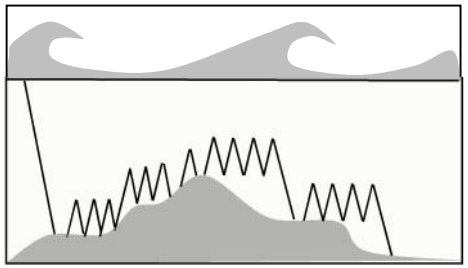
Ex has 6 different fishing programs. Every program is built with steps and here you will find a more detailed explanation of how these work and what values you need to change.



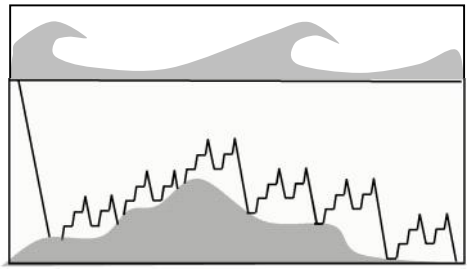
1. Normal fishing(N)
See page 31.



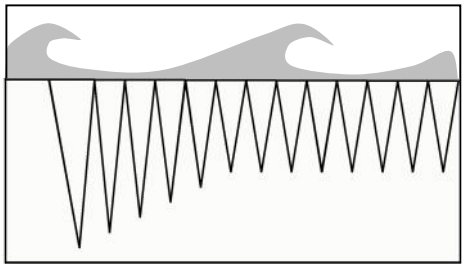
2. Step Jig (S)
Se side 15.



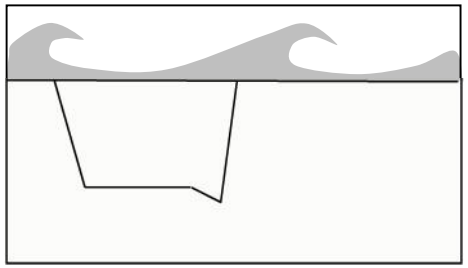
3. Bottom fishing (Bf)
Se side 16.



4. Bottom with step jig(BS)
Se side 17.



5. Mackerel and Squid (M)
Se side 18.



6. Trolling (T)
Se side 19.

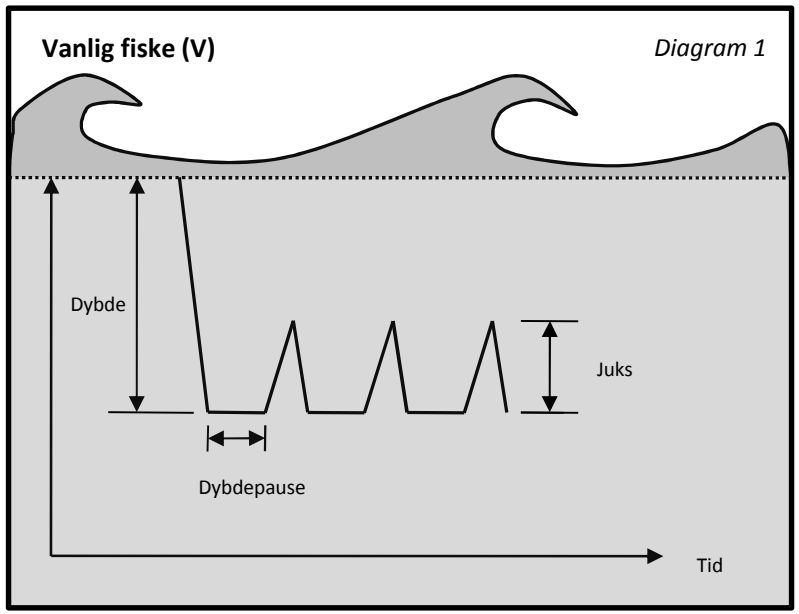
NORMAL FISHING(N)

The simplest fishing program. See diagram 1.
Comprises of three parts

1.Depth is the depth you want to fish at.

2.Jig is the length that you want the machine to haul up before it releases and goes down.(Jig length)

3.Depth pause is the amount of time you want the machine to wait before hauling the Jig length. Depth pause can be changed with ”PAUSE” in main menu 1



The diagram shows how the sinker could be shown on the echo sounder, with the depth on the vertical axis and the time on the horizontal.

Programming of ”Normal Fishing”:

1. Press **[P]** and check that ”*Fishing program”* is displayed on the top row. Change program using **[3]** and **[6]** so that the program is on ”normal fishing” shown on row 3.
2. Press **[P]** again and adjust the fishing depth (”*Depth*”) using 100’s, 10’s and 1’s with buttons **[1]**-**[6]**
3. Press **[P]** again and adjust the jig length (”Jig”)

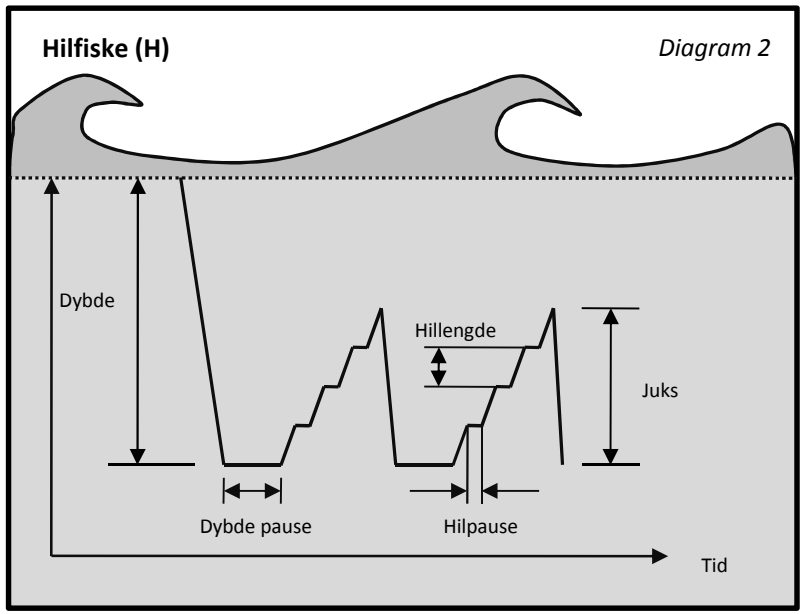
NB If (”*Jig*”) is set to zero, when you press **[P]** you enter fishing program (”Trolling”). Se side 36.

STEP JIG (INTERVAL) FISHING (S)

Step Jig means interval fishing or gradual hauling,

Se diagram 2.

Divided in jigs with pauses between.



Two new functions to abide by:
(”Step length”) is the length of each jig
(”Step pause”) is the pause between jigs

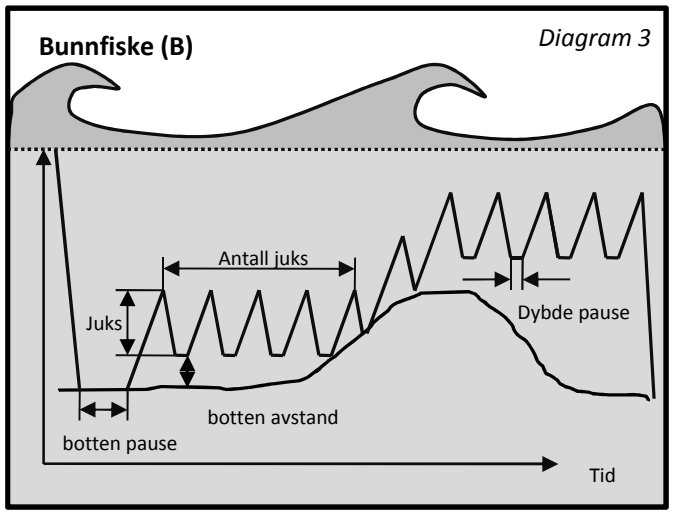
Example: The following values are set: Depth 50 meter, jig length 7 meter and ”step length” 2 metre and finally ”Step pause” 3 seconds. The machine will pay out line to 50 meters, stop for the amount of Time set as ”Depth pause”, then haul ”Step length” 2 meter and stop. It will then wait 3 seconds “Step Pause”, then carry on hauling and pausing until the jig length of 7 meters is hauled. After this is done the machine will continue to repeat the above until either the operator presses stop or catch is registered.

Programming ”Step Jig”:

1. Press **[P]** and check that ”*Fishing program”* is displayed on the top row. Change program using **[3]** and **[6]** so that the program is on ”Step Jig” shown on row 3.
2. Press **[P]** and set “Depth”.
3. Press **[P]** and set “Jig length”
4. Press **[P]** and set “step length”.
5. Press **[P]** and set “Step pause”.

BOTTOM FISHING (B)

Means fishing close to bottom. *See diagram 3.*
The machine will hold the sinker close to the bottom even if the depth changes over time. Fishing depth can be chosen.
Three new functions are added to this program:
1. Detect time - is the time the machine needs to register the sea bed. From when the wheel stops rotating to when the Machine starts hauling is regulated by the bottom pause. Then the machine will haul the bottom distance + jig length.
2. Bottom dist. - is the depth at which the fishing shall be undertaken over the sea bed.
3. No of jigs - This is the number of jigs that the machine will make before it will try to find the sea bed again.
Bottom Fishing (B) ***Diagram 3***
Time, detect time, No. Jigs, Bottom dist, Depth pause.

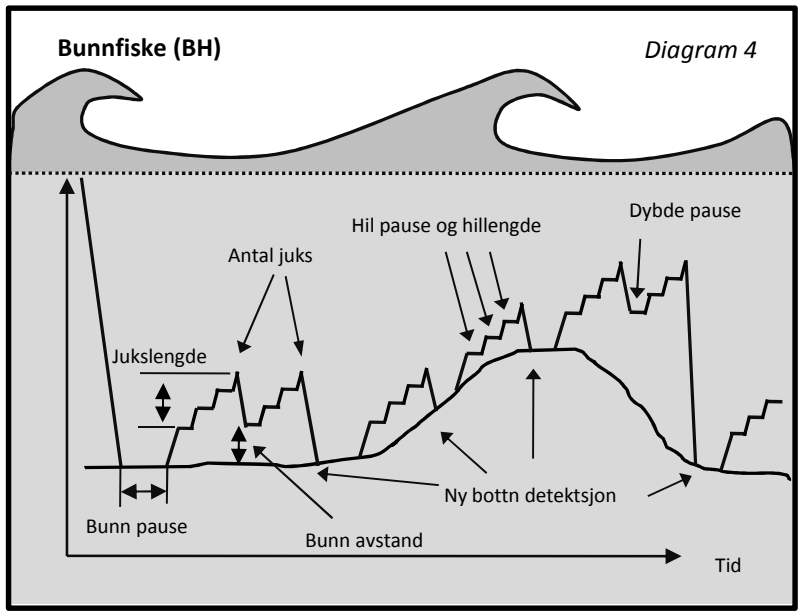


Programming Bottom fishing:
1.Press **[P]-**button to enter the fishing program menu. Choose bottom fishing in row 3 of the display by using buttons **[3]** and**[6]**
2.Press **[P]-**button again. Choose the DEPTH. Depth can be used to simulate a sea bed, but if you want to fish on the sea bed you have to set the depth deeper than the sea bed actually is.
3.Press **[P]-**button again and choose ”Jig length".
4.Press **[P]-**button and choose ”Detect time" which is the time from when the sinker hits the sea bed to when the machine starts hauling. When the sinker hits the bottom or goes slowly, the time of the bottom pause is designed to calculate one revolution of the wheel. If no revolution is detected then the machine assumes that you arte on the sea bed.
5.Press **[P]-**button and choose your ”Bottom distance”.
6.Press **[P]-**button and choose ”No. of jigs” before finding the sea bed again
7.Press **[P]-**button and choose ”Max depth". For correcting your line in strong currents or drifting
8.Press **[P]-**button and choose ”Hauling up”. How far you want the line to haul up when reaching max depth

BOTTOM with STEP (BS)

A combination of Bottom fishing and Step jig fishing.
See Bottom fishing (page 32) and Step jig fishing (page 33) for details.

This combined fishing program does not use any new commands, But all parameters used in the two fishing methods are used here.



Programming ”Bottom fishing with step”:

1. Press **[P]-**button to enter the fishing program menu. Choose “Bottom fishing with step” in row 3 of the display by using buttons **[3]** and**[6]**
2. Press **[P]** and set ”Depth”.
3. Press **[P]** and set "Jig length".
4. Press **[P]** and set ”Detect time” (See page 33 for details)
5. Press **[P]** and set ”Bottom dist.”. (See page 33 for details)
6. Press **[P]** and set ”No. of jigs”
7. Press **[P]** and set ”Step length”. (See page 32 for details)
8. Press **[P]** and set ”Step pause“. (See page 32 for details)
9. Press **[P]** and set ”Max depth” and **[P]** again to set ”Haul up". Read more about this on page 7.

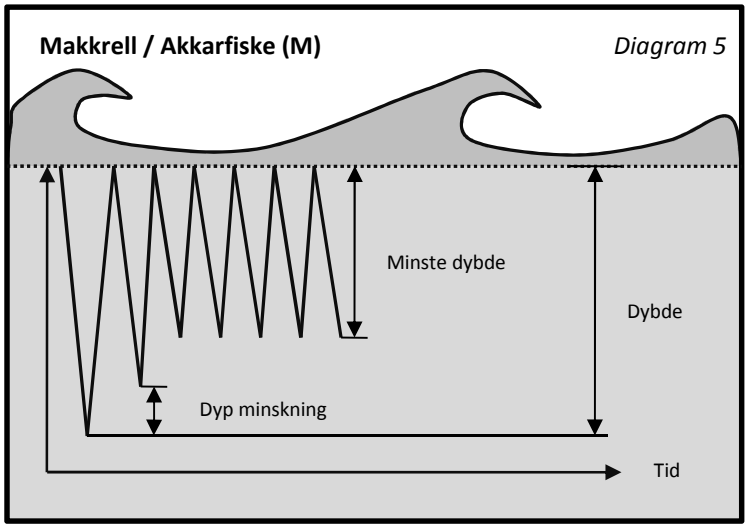
MACKEREL and SQUID (M)

This program is used for trolling mackerel and can also be used for squid

”Jig length” is not used in this program as the machine hauls all the Way up to the “Zero point” every time.

1. ***Depth reduction*** is the reduction of depth after every haul. This is used to attract the fish nearer to the boat.

2. ***Minimum depth*** is the depth the machine will eventually end up and fish on.

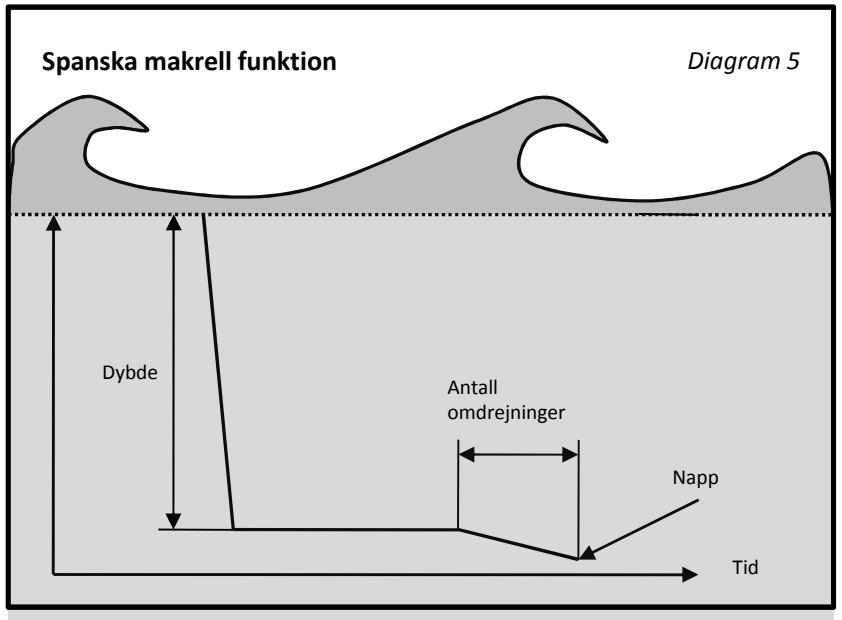


Example: If depth is set to 50 meters, ”Depth reduction” is 5 meters and minimum depth is 30 meters, the following will happen:
When **[A]** is pressed the machine will pay out 50 meters, brake and haul the line up to the “Zero point”, it will the pay out 45 meters. (50-5=45). The machine carries on until it reaches a depth of 35 meters. If **[S]** is pressed and the program is started again by pressing **[A]** then the machine starts at 50 meters again.

Programming ”Mackerel fishing”:
1. Press **[P]-**button to enter the fishing program menu. Choose “Mackerel fishing” in row 3 of the display by using buttons **[3]** and**[6]**
2. Press **[P]** and set ”Depth”.
3. Press **[P]** and set ”Depth reduction”.
4. Press **[P]** and set ”Minimum depth”.

TROLLING (N)

In ”Trolling” the machine pays out to a set depth and then hold at that depth using ***(”Depth Drag”)***. This is unique and only is used in this function.
(”Jig length”) is not used, but set to 0. Then the ”Trolling” function starts. The machine then registers catch by the line getting pulled of the wheel.



Revolutions: The number of revolutions of the wheel before catch is registered.

Depth drag: Is the power that holds the wheel stationary after the initial braking (DRAG) when the set depth is reached. The value for this should be under the value for (DRAG) so that the fish can pull the line from the wheel when hooked, but at the same time it has to be higher than the value for (BRAKE) so that the line is not dragged off by the sinker.

Programming ”Trolling".

1. Press **[P]** and check that ”*Fishing program”* is displayed on the top row. Change the program using**[3]** and **[6]** so that the program is on ”normal fishing” shown on row 3.
2. Press **[P]** and set ”Depth”.
3. Press **[P]** and set ”Jig length” to 0.
4. Press **[P]** and set ”Catch Revolutions” to more than 0. This then activates ”Trolling”.
5. Press **[P]** and set ”Depth drag min” to the required amount. This should be set so that the wheel just about holds the sinker without the wheel moving a place between the values for brake and drag in strength.
6. Press **[P]** and set ”Depth drag Max” to the required maximum needed to hold the wheel stationary.
7. Press **[P]** and set ”Depth drag Pulse” the number of revolutions the wheel will get dragged whilst increasing the drag from min to max.

DISPLAY TEXTS

Display text	Min	Max	Fact.	Steps	Unit	Description
Line out	0	999	-	1	M/Ftm/Ft	Normal display picture
Fishing program	0	4		1	Normal fishing, 1=Step jig, 2=Bottom fishing, 3=Bottom with step. 4=Mackerel-fishing	
NORMAL FISHING PROGRAM						
Depth	0	999	20	1	M/Ftm/Ft	Fishing depth
Jig length	1	100	2	1	M/Ftm/Ft	Jig length
NORMAL FISHING PROGRAM with TROLLING (Jig length=0)						
CATCH - Revolutions	UT	30	UT	1	Revs	Trolling feature Number of revolutions at set depth before catch is registered
Depth drag - Min	0	20	4	1	%	Trolling. The power the motor must have to hold the line still when the predertermined depth is reached. If the line is not still the power has to be increased.
Depth drag - Max	0	20	4	1	%	Trolling . The maximum power the motor needs to hold still
Depth drag – Pulses	0,1	16,5	0,1		Revs	How many revolutions off the wheel needed from from Min til Max when Trolling
STEP JIG PROGRAM						
Length	1	100	2	1	M/Ftm/Ft	Step length
Pause	0,5	10,0	2,0	0,1	Seconds	Step pause
BOTTOM FISHING PROGRAM						
Bottom pause	0,5	999,9	2,0	0,1	Seconds	Time elapsed before registering sea bed
Bottom distance	0	20	2	1	M/Ftm/Ft	Distance from the sea bed in bottom fishing
No. Of jigs	1	25	10	1		Number of jigs before finding sea bed again
Max depth	1	999	999	1	M/Ftm/Ft	When this depth is reached the machine starts to haul in
Haul	1	100	50	1	M/Ftm/Ft	How much the machine will haul when max depth is reached. The length is registered in %

Table of values

DISPLAY TEXTS

Display text	Min	Max	Fact.	Steps	Unit	Description
MACKEREL FISHING PROGRAM						
Depth pause	1	10	1	1	M/Ftm/Ft	The pause when the depth is reached before hauling in mackerel program.
Depth reduction.	1	10	2	1	M/Ftm/Ft	Reduction of fishing depth after each haul.
Minimum depth	0	999	5	1	M/Ftm/Ft	Final fishing depth in mackerel program after all depth reduction are finished.
MOTOR (MENU1)						
JIG						
Soft start to jig speed	OUT	10,0	1,0	0,1	Seconds	Acceleration of motor in fishing programs.
Speed at jig	1	160	120	1	RPM	Speed of jigs.
CATCH						
Speed at catch	1	160	50	1	RPM	Speed directly after catch is registered
Catch speed time	OUT	60,0	OUT	0,1	Seconds	Speed ”Speed at catch” activates before ”Speed at haul” takes over. Factory settings are ”OUT”. Function ”Speed at catch” is deactivated. The speed at catch will therefore be ”Haul speed” directly.
HAUL						
Soft start	OUT	10,0	2,0	0,1	Seconds	Acceleration time between ”speed at catch” and ”speed at haul” ,if ”speed at catch” is used.
Speed	1	160	120	1	RPM	Hauling speed after catch is registered
MANUAL UP						
Soft start	OUT	10,0	1,0	0,1	Seconds	Acceleration time when manually hauling
Speed	1	160	120	1	RPM	Speed when manually hauling

DISPLAY TEXT

Table of values

Display text	Min	Max	Fact.	Step	Units	Description
TANGLE						
Speed	OUT	160	OUT	1	RPM	Speed to avoid ”Tangle”
Limit value	0	20	4	1	AMP	Under current limit for tangle.
Measure time	1	50	10	0,1	Seconds	The time when the under current is reached before tangle activates
Distance	0	99	5	1	M/Ftm/Ft	Distance from fishing depth before “Tangle” activates.
PAUSE (MENU1)						
Auto	0,5	10,0	0,5	0,1	Seconds	Time from after auto is pressed to the line releases. This is so that the line can straighten after the line is thrown overboard.
Depth pause	0,5	25,0	0,5	0,1	Seconds	Pause at fishing depth before hauling the jig length.
CATCH (MENU1)						
Time up	0,1	10,0	1,0	0,1	Seconds	Time elapsed before catch is registered when hauling the jig length. This is the most common catch method.
Time down	1,0	25,0	OUT	0,1	Seconds	Catch registration if the sinker stops on the way down. The function is not available when bottom fishing is used
Catch at speed brake	OUT	IN	OUT	-	-	Catch can also be registered if the wheel speed is too great and the speed brake activates.
Motor speed below Jigg speed.	OUT	100	50	1	%	Catch detection is possible when motorspeed gets to low, which may be due large catch. Factory setting is below 50% and means that if Jig speed is set to 150rpm, catch is detected when motor gets a speed lower then 75Rpm.
Brightness	OUT	100	100	1	%	Brightness of the display.
Automatic auto start	OUT	99,9	OUT	0,1	Seconds	When the machine has hauled the catch and stopped it can start again automatically after the elapsed time, to be used when automatic unhookers are used.

Table of values

DISPLAY TEXT

Display text	Min	Max	Fact.	Step	Units	Description
WHEEL (MENU1)						
DIM						
Wheel width	1	99	80	1	mm	The width of the wheel in mm. To correctly measure the depth. The standard wheel is 80mm.
NYLON						
Nylondiam.	1,5	5,0	1,4	0,1	mm	Diameter of the nylon in mm. To correctly measure the depth. See page 18.
Nylon amount	130	400	170	1	mm	The amount of line on the wheel. See page 18.
COUNTER						
Units	Meter - Fathom - Foot				M/Ftm/Ft	Choose the unit of measure you require.
Direction	Reverse - Normal					Decides the motor and counting direction.
Wheel pulse	11-01-00-10 -11 or 11-10-00-01-11					Counter test .Counters A and B Has to follow the pre written formula regardless of direction. See page 45.
STOP-P (submenu WHEEL in MENU1)						
ZERO						
Stop at 0	OUT	IN	IN	-	-	If the motor will stop when zero is reached.
WATER						Maximum operating time of the motor if the sinker stops. This time cannot be deactivated
Time	1,0	99,9	30,0	0,1	Seconds	
PULLEY						Time that the wheel has to be stationary before ”Stop at pulley” is registered. This can be used instead of ”Stop at 0” and can be deactivated.
Time	OUT	99,9	OUT	0,1	Seconds	
Over depth	1	50	20	1	M/Ftm/Ft	Stop at pulley is registered over this depth.
Restart	0,1	60	UT	0,1	Seconds	Restart of the program after ”Stop at pulley” is reached.
Auto Zero	OUT	IN	OUT	-	-	The function resets the counter every time you press[A] or if ”Stop at pulley” has activated.

DISPLAY TEXT

Table of values

Display text	Min	Max	Fact.	Step	Units	Description
SOFT DT.						
Soft stop at 0 in auto mode	OUT	99	8	1	Revolutions	How many revolutions the speed reduction is divided between
Soft stop at 0 In manual mode	OUT	99	OUT	1	Revolutions	How many revolutions the speed reduction is divided between
PV.						
Pulse width					mS	Length of reverse polarity pulse
Pulse pause					Seconds	Pause between pulses
Number of pulses						The amount of pulses
BRAKE (MENU1)						
SPEED BRAKE						
Strength	OUT	0	20	1	%	How much power the brake applies when speed brake activates
Braking time	0,1	5,0	1,0	0,1	Seconds	How long the braking should last for.
Speed	50	900	600	1	RPM	Which speed the speed brake will activate at.
DEPTH BRAKE						
Strength	UT	0	20	1	%	How much power the depth brake should use.
Braking time	0,1	5,0	1,0	0,1	Seconds	How long the braking should last for
Speed	50	900	600	1	RPM	Which speed the brake will activate at.
AIR BRAKE						
Speed	50	900	600	1	RPM	Which speed the air brake will activate at.
Over depth	0	999	0	1	M/Ftm/Ft	Over which depth the brake will activate at.

Table of values

DISPLAY TEXT

Display text	Min	Max	Fact.	Step	Units	Description
DISPLAY (MENU2)						
Contrast	0	100	70	1	%	Adjusting the displays contrast
Back light	0	100	80	1	%	How strong the back light of the display is
Light time	OUT	IN	IN			How long the back light stays active after the last button is pressed.
Language	Norwegian, English					Language choice
Display time	0,5	20,0	4,0	0,1	Seconds	The time that the values for catch-drag-brake are shown after pressing the button
Large counter	-999	999	000	1	M/Ftm/Ft	Shows line out using 32 mm high digits
Value 1						Value shown on row 3 in home screen. See pages 9 and 26
Value 2						Value shown on row 4 in home screen. See pages 9 and 26
Help text	OUT	10,0	OUT	0,1	Seconds	Help text can be shown if no button is pressed.
INFO (MENY2)						
Voltage		35			Volt	External battery voltage
Temp		120			Celsius	Temperature in the machine
Amps					Amps	Motors power usage.
Damp Upper					%	Dampness on the top of the display card
Damp Lower					%	Dampness on the bottom of the display card
Boost-voltage					Volt	Internal voltage.

DISPLAY TEXT

Table of values

Display text	Min	Max	Fact.	Step	Units	Description
BEEP (MENU2)						
Keypad sound	OUT	IN	IN	-	-	Choose if keypad sound is on or off.
No. of beeps at catch	OUT	99	30	1	Pcs.	How many beeps at catch.
Catch beep at 0 pause	OUT	60,0	5,0	0,1	Seconds	How long between each beep when catch is hauled up.
CODE (MENY2)						
Anti theft code at	Never – On start up – Disconnected battery					Choose if the code is used on start-up or not at all
Anti theft code?	000000	999999	-	1	-	Anti theft code
utomatically shown pictures						
Catch depth	1	999	-	1	M/Ftm/Ft	Shows which depth the catch was registered at
belitronic´s BJ5000 Ex Version X.X System XXV Serial number						Start-up picture with information about: Program version. Voltage used (12v or 24v) Serial number of the main board.
Factory set values						Shown if [Z] is held for 3 seconds.
LOW BATTERY!						WARNING. Shown only when the boats battery is low voltage measured in the machine. Use [E] to remove message.
MEMORY FAULT Press enter						WARNING. Memory fault, after this is shown the machine will reset to factory values

Troubleshooting

Troubleshooting

1 Press in the emergency stop
2 Does the machine turn off? If not, the emergency stop can be adjusted.(Located on display board)
3 The wheel should run easily if the clutch is not magnetised or dirty
4 Release emergency stop. If the machine starts go to 5. Machine dead? Are the plus and minus connected correctly. The emergency stop may need to be adjusted. If you still have problems contact a service workshop.
5 If the display show the correct text at start-up and Home screen ("Line out") go to 6. If the text is unreadable or the machine freezes before the home screen is displayed then the display board will have to be replaced.
6 If the motor is OK go to 7. If not the problem could be on either the main board or display board.
7 If all buttons work got to 8. If not the display board will have to be replaced
8 Hold in [Z] until "Factory reset" in the display. Reduce CATCH to zero. Tap [U] so that the motor starts. If it starts ok then go to 9. If it doesn't work, does it work in auto mode? If yes then the [U] button is broken and the display board will need to be replaced.
9 Does LINE OUT count negative (-001, -002 ect). The problem can come from both circuit boards or the magnets in the wheel. Read ERROR MESSAGES counter. Have you recently changed the wheel?
10 Stop the motor and tie the line to a strong point and start the motor again. Gradually increase DRAG. Does the power usage increase and the wheel increase strength? If there is no strength then the problem could lie in the clutch or that the cables could be damaged. The main board can also be damaged. Is there is 30 kgs drag at the wheel with 100% DRAG and the clutch is not slipping? If yes then go to 11. If not and the clutch slips as drag is increased try to increase (“Torque increases with DRAG") a few percent. If this does not solve the problem then it could be the clutch, cables or circuit boards. If "Low batt“ is shown then the battery or the main board could be defective.
11 Is there sound when buttons are pressed. If keypad sounds are enabled and still no sound then the problem is on the display board.
12 Go to the menu for (“Catch LED") see page 24. Increase to 100%. If the lights do not work then the problem is on the display board and you can contact a service workshop

ERROR MESSAGES

LOW BATTERY

The voltage at the machine is lower than it should be. The main board sends an alarm signal when this drops below 10v. NOTE: if the machine is run on 24v the voltage is automatically adjusted to 12v, this still means that the system is running on 10v. The motor will run slowly and there will not be much power at the wheel, if this happens check the battery cable, connections and the battery.

MEMORY ERRORS

If display shows “memory error” the keyboard (KEX) needs to be replaced. If displays shows “MEX error” the mainboard (MEX) needs to be replaced.

WHEEL COUNTER

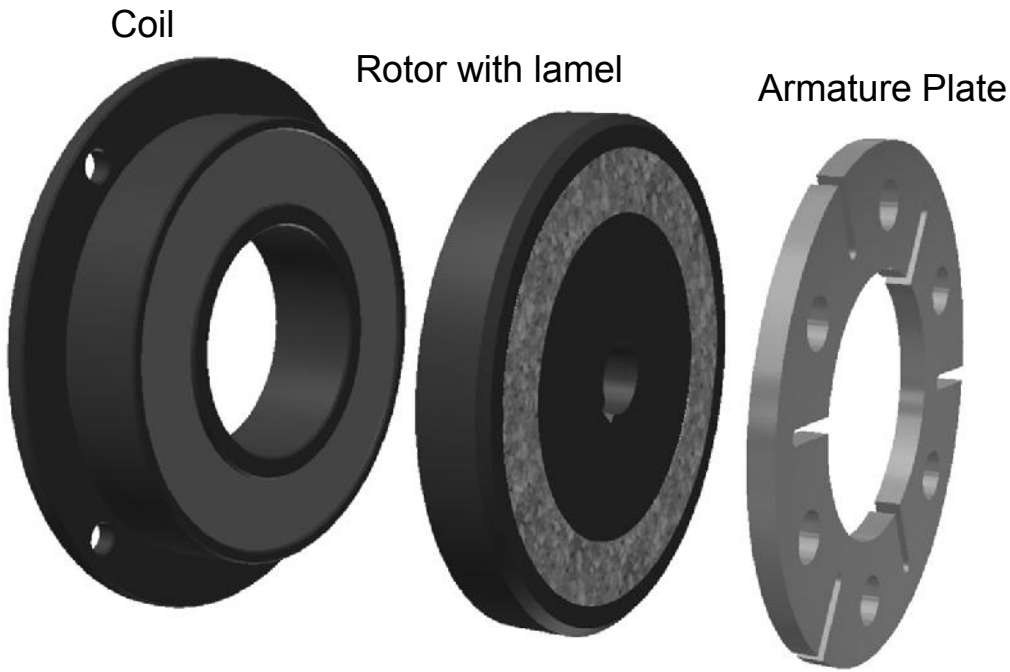
Counters A and B should, regardless of rotational direction, shoe the pattern 11-10-00-01-11 or 11-01-00-10-11 when the wheel magnets pass. If the wheel is held stationary then the numbers should be stationary too. This shows that the (COUNTER) is functioning correctly. Please note that in this picture the pulses are not calculated in feet, fathoms or meters, but revolutions of the wheel. If A or B are non responsive you could have a problem with either the magnets in the wheel or the counters that are situated on the main circuit board.

MAINTENANCE

Clutch

The clutch should be cleaned at regular intervals, at least once per year. If the line does not run off when [A] is pressed, then you should check the clutch. It could be dirt and grime that are affecting the clutch. The same thing can happen when the machine has not been used over a longer period of time. To clean the clutch do the following. Remove the centre screw that holds the wheel in place. Carefully remove the wheel. The armature plate is loose, so avoid loosing this, especially if you are doing thin on board the boat. Pull the rotor from the axel, this can sit very good, but often is quite easy to remove. Clean all of the parts with degreasing chemicals such as alcohol, technical spirit, acetone ect. Rub the armature plate and the rotor carefully with emery paper.

Check once per year to see if damp has entered the machine. Loosen the 8 screws and remove the front case. Look for condensation and possible corrosion on the display/main board. If you see signs of condensation, then let the machine dry out. A new silicone seal is recommended after opening especially if there were signs of condensation. Use some Teflon or similar on the screws as stainless steel and aluminium do not mix very well



TECHNICAL DATA

Weight of the machine:	15,3 Kg
Power usage at full strength 12volt	20 Amps max
Power usage at full strength 24volt	10 Amps max
Average power consumption:	1-3 Amps
Voltage range:	12-30 Volt DC
Cable dimension:	7 Meter 4x2,5mm²
Nylon capacity:	~500 Meter 1,4mm nylon
Max fishing depth	999 Meter, Fathom, Feet
Motor speed:	1-180 rpm
Accuracy of depth:	Near 100%
Guarantee:	2 years
Display Board	12 back lit buttons 4 LED Catch indicators Graphical back lit display 192x64 dot Acoustic signal at catch & buttons

GUARANTEE

Guarantee of this machine is 2 (TWO) years from invoice date

If a problem occurs within this period, the machine will be repaired without cost.

The guarantee covers parts and labour from either the factor or one of the dealers. The guarantee is only valid for construction, production or material faults.

The guarantee does not cover damage by rough usage or not using the machine as intended.

The guarantee does not cover loss of equipment or catch

The machine must be sent in paid freight to the dealer or factory, the machine will also be returned from the dealer or factory in paid freight. The customer must pay the freight/postage costs to the dealer or factory

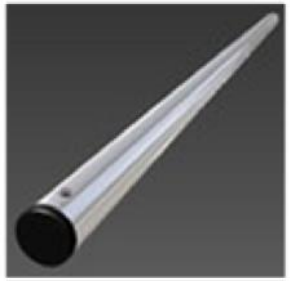
The manufacturer or dealer can not be held responsible for damage, loss or costs associated with the use of this product.

ACCESSORIES

Stand

Diameter 40mm

Out rigger



Diameter 30 or 50mm

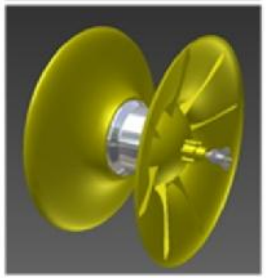
Pulley

Red

Black

Blue

Mackerel wheel



Cover

Hooks

Sinkers

Extra cablel 4*4mm²

Found in 7 m length or per meter.

Lines

Monofilament and Dyneema
80 – 160 kg

WARRANTY

If a problem should occur then contact the dealer that you purchased from, it is them that have the responsibility for the guarantee work at first.

Service or repair must only be carried out by authorised dealers or the manufacturer. Within the guarantee time ,the dealer must repair the machine without cost to the customer. If the machine has to be sent to the dealer, the customer must cover these costs.

If the machine has to be exchanged (guarantee) , the guarantee is only valid from the original invoice date!

The program and fishing programs are Belitronics property. All programs are used “AS IS"

The programs and accompanied documents are copyrighted and protected by law.

Belitronic Sweden AB appreciate our customers experiences with regards to usage and operating this machine and would like nothing better than to receive feedback, positive or negative. We also like to receive photos of boats with these machines mounted, catch and crew.

Thank you for purchasing a BJ5000Ex and happy fishing!

belitronic

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